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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ELLIOTT IV, BENJAMIN H

ART UNIT

PAPER NUMBER

2474

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,109	Applicant(s) BICHOT ET AL.	
	Examiner BENJAMIN ELLIOTT	Art Unit 2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/19/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-13 have been examined. Claim 5 is canceled. Claims 12-13 are added new. No new matter has been added.

Response to Arguments

2. Applicant's arguments, see "Remarks", pages 5-7, filed 3/25/2010 with respect to claims 1-11 have been fully considered and are persuasive. The rejection of claims 1-11 has been withdrawn.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 3/19/2010 has been found to be in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
8. Claims 1-2, 4, and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication 2002/0191572 A1 to Weinstein et al. (hereinafter "Weinstein"), in view of United States Patent 7,088,714 B2 to Athreya et al. (hereinafter "Athreya").

Regarding Claim 1, Weinstein discloses **a method for controlling Quality of Service (QoS) levels/service levels** (Weinstein: [0044]. Each LAN segment supports engineering for different levels of QoS support for subscribers.) **within a wired network associated with wireless Local Area Network (LAN)** (Weinstein: Figure 3A and [0050-0051]. Ethernet switches 301-301-m connect to access points 300-300-n (wired) to form LAN segments. The Ethernet switch has VLAN capabilities. Figure 3b and [0052]; the access points operate under protocols such as 802.11 or GSM (wireless).), **the wired network having different paths for carrying information frames received from at least one mobile terminal user** (Weinstein: See Figure 3B and [0053], wherein the access point acts as a bridge in the WLAN.), **comprising the steps of: receiving in the network at least one frame of information** (Weinstein: Figure 4 and [0070]; mobile terminal associates itself with an access point. [0095]; mobile terminal sends a message to the access point.); **determining a QoS level/service level for the received frame** (Weinstein: [0062]. An IEEE 802.1p header associated with the received frame from the LAN for QoS provisioning.).

The VOLAN (Virtual Operator LAN) of Weinstein supports varying degrees of quality of service to subscribers (Weinstein: [0041], [0056]). The access points of Weinstein host several components that support QoS control (Weinstein: [0061]). Also, Weinstein discloses received frames are tagged with a VLAN ID (Weinstein: [0062]). Weinstein does not, however, explicitly disclose the identifier identifies a path through the network to provide sufficient QoS capabilities.

Athreya discloses a VLAN tagging unit (Athreya: Figure 2A, 64) as part of a communication network comprised of a plurality of customer networks (Athreya: Figure 2A), wherein the VLAN tagging unit is operable to, as disclosed in one embodiment of Athreya, assign VLAN tags based on the type of traffic (Athreya: Col. 11, lines 6-16). In this particular embodiment, Athreya discloses **associating with the received frame an identifier that identifies a path through the network having a transmission capability sufficient to provide the determined QoS level/service level** (Athreya: Col. 11, lines 5-22 and Figure 16. A received frame is given a VLAN tag based on the quality of service the frame requires. A path is set based on whether the received frame requires, for example, a high-priority path for voice or a low-priority path for data. Figure 8; the VLAN tagging unit comprises a VLAN table associating certain identifiers of logical interfaces, flow indications, service indications (including QoS), and NAT indications to a VLAN tag representation.), **wherein the identifier includes a Virtual Local Area Network (VLAN) number** (Athreya: Col. 11, lines 10-11 and Figure 8) **and routing the frame in the network in accordance with the associated identifier** (Athreya: Figure 16. The received frame is directed on a path for voice or data traffic according to the VLAN tag.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Weinstein to include routing traffic based on QoS and an identifier as disclosed by Athreya. This benefits the method by supporting a wider area of customer service equipments (Athreya:

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Col. 1, lines 13-25) and supports forwarding to a wider variety of network elements (Athreya: Col. 11, lines 25-28).

Regarding Claim 2, Weinstein in view of Athreya discloses **the method according to claim 1 wherein the QoS level/service level is determined from the identity of the mobile terminal user that originated the frame** (Athreya: Col. 11, lines 18-22; based on IP addresses. Col. 10, lines 53-56; IP addresses are destination of source addresses.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Weinstein to include routing traffic based on QoS and an identifier as disclosed by Athreya. This benefits the method by supporting a wider area of customer service equipments (Athreya: Col. 1, lines 13-25) and supports forwarding to a wider variety of network elements (Athreya: Col. 11, lines 25-28).

Regarding Claim 4, Weinstein in view of Athreya discloses **the method according to claim 1 wherein the step of receiving the information frame comprises the step of receiving an IP packet in an Ethernet Frame** (Athreya: Figure 2B).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Weinstein to include routing traffic based on QoS and an identifier as disclosed by Athreya. This benefits the method by supporting a wider area of customer service equipments (Athreya: Col. 1, lines 13-25) and supports forwarding to a wider variety of network elements (Athreya: Col. 11, lines 25-28).

Regarding Claim 6, Weinstein in view of Athreya discloses **the method according to claim 1 wherein the step of routing the frame comprises the step of routing the frame to one of a plurality of separate destinations** (Weinstein: Figure 3A; multiple destinations may include access points 300-1 through 300-n, or destinations 330 and 340).

Regarding Claim 7, Weinstein in view of Athreya discloses **the method according to claim 1 wherein the step of routing the frame comprises the step of routing the frame to one destination across a selected one of a plurality of interfaces** (Weinstein: Figure 3A, [0052], [0082]).

Regarding Claim 12, Weinstein in view of Athreya **discloses the method according to claim 1, wherein the VLAN number is the identifier that identifies the path through the network having transmission capability sufficient to provide the determined QoS level/service level** (Athreya: Col. 11, lines 5-22 and Figure 16. A received frame is given a VLAN tag based on the quality of service the frame requires. A path is set based on whether the received frame requires, for example, a high-priority path for voice or a low-priority path for data. Figure 8; the VLAN tagging unit comprises a VLAN table associating certain identifiers of logical interfaces, flow indications, service indications (including QoS), and NAT indications to a VLAN tag representation. Also see Col. 11, lines 10-11 and Figure 8.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Weinstein to include routing traffic based on QoS and an identifier as disclosed by Athreya. This benefits the

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method by supporting a wider area of customer service equipments (Athreya: Col. 1, lines 13-25) and supports forwarding to a wider variety of network elements (Athreya: Col. 11, lines 25-28).

Regarding Claim 8, Weinstein discloses **a wireless Local Area Network (LAN) for routing received information frames** (Weinstein: Figure 3A and [0050-0051]. Ethernet switches 301-301-m connect to access points 300-300-n (wired) to form LAN segments. The Ethernet switch has VLAN capabilities. Figure 3b and [0052]; the access points operate under protocols such as 802.11 or GSM (wireless).), **comprising:**

at least one Access Point for receiving radio traffic from at least one mobile terminal (Weinstein: See Figure 3B and [0053], wherein the access point acts as a bridge in the WLAN.) **and for communicating such traffic in the form of at least one information frame** (Weinstein: Figure 4 and [0070]; mobile terminal associates itself with an access point. [0095]; mobile terminal sends a message to the access point.);

an administrative gateway for establishing a Quality of Service level/service level for the one information frame (Weinstein: [0084]. Paths are determined between gateways and access points according to QoS requirements imbedded in MPLS labels.) **and for instructing the Access Point to assign an identifier to the frame that identifies a path through the network having transmission capability in accordance with the QoS level/service level established for the**

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frame, wherein the identifier comprises a Virtual Local Area Network (VLAN) number (Weinstein: [0017]. Access points can be routers.); **and a switch for routing the frame to a destination selected in accordance with the assigned identifier** (Weinstein: Abstract; [0017]. A router is connected to network switches to connect paths that are QoS-enabled.).

The VOLAN (Virtual Operator LAN) of Weinstein supports varying degrees of quality of service to subscribers (Weinstein: [0041], [0056]). The access points of Weinstein host several components that support QoS control (Weinstein: [0061]). Also, Weinstein discloses received frames are tagged with a VLAN ID (Weinstein: [0062]). Weinstein does not, however, explicitly disclose the identifier identifies a path through the network to provide sufficient QoS capabilities.

Athreya discloses a VLAN tagging unit (Athreya: Figure 2A, 64) as part of a communication network comprised of a plurality of customer networks (Athreya: Figure 2A), wherein the VLAN tagging unit is operable to, as disclosed in one embodiment of Athreya, assign VLAN tags based on the type of traffic (Athreya: Col. 11, lines 6-16). In this particular embodiment, Athreya discloses **associating with the received frame an identifier that identifies a path through the network having a transmission capability sufficient to provide the determined QoS level/service level** (Athreya: Col. 11, lines 5-22 and Figure 16. A received frame is given a VLAN tag based on the quality of service the frame requires. A path is set based on whether the received frame requires, for example, a high-priority path for voice or a low-priority path for data. Figure 8; the VLAN tagging unit comprises a VLAN table associating certain identifiers of

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logical interfaces, flow indications, service indications (including QoS), and NAT indications to a VLAN tag representation.), **wherein the identifier includes a Virtual Local Area Network (VLAN) number** (Athreya: Col. 11, lines 10-11 and Figure 8) **and routing the frame in the network in accordance with the associated identifier** (Athreya: Figure 16. The received frame is directed on a path for voice or data traffic according to the VLAN tag.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Weinstein to include routing traffic based on QoS and an identifier as disclosed by Athreya. This benefits the method by supporting a wider area of customer service equipments (Athreya: Col. 1, lines 13-25) and supports forwarding to a wider variety of network elements (Athreya: Col. 11, lines 25-28).

Regarding Claim 9, Weinstein in view of Athreya discloses **the wireless LAN according to claim 8, wherein the switch comprises a Virtual Local Area Network (VLAN) capable Ethernet switch** (Weinstein: [0050]. Each Ethernet switch incorporates the virtual network and QoS services.).

Regarding Claim 10, Weinstein in view of Athreya discloses **the wireless LAN according to claim 8 further including a plurality of routing gateways** (Weinstein: [0017]. The network comprises one or more gateways.), **each comprising a destination for the frame routed by the switch in accordance with the identifier assigned to the frame** (Weinstein: [0074]. The gateway receives a packet for a mobile host.).

Regarding Claim 11, Weinstein in view of Athreya discloses **the wireless LAN according to claim 8 further including a routing gateway** (Weinstein: [0017]. The network comprises one or more gateways.), **having a plurality of interfaces** (Weinstein: Figure 6), **each interface providing a path for carrying a frame routed by the switch in accordance with the identifier assigned to the frame** (Weinstein: [0074]. The gateway receives a packet for a mobile host.).

Regarding Claim 13, Weinstein in view of Athreya discloses **the wireless LAN according to claim 8, wherein the VLAN number is the identifier that identifies the path through the network having transmission capability in accordance with the QoS level/service level established for the frame** (Athreya: Col. 11, lines 5-22 and Figure 16. A received frame is given a VLAN tag based on the quality of service the frame requires. A path is set based on whether the received frame requires, for example, a high-priority path for voice or a low-priority path for data. Figure 8; the VLAN tagging unit comprises a VLAN table associating certain identifiers of logical interfaces, flow indications, service indications (including QoS), and NAT indications to a VLAN tag representation. Also see Col. 11, lines 10-11 and Figure 8.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Weinstein to include routing traffic based on QoS and an identifier as disclosed by Athreya. This benefits the method by supporting a wider area of customer service equipments (Athreya: Col. 1, lines 13-25) and supports forwarding to a wider variety of network elements (Athreya: Col. 11, lines 25-28).

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weinstein and Athreya, in view of United States Patent Application Publication 2002/0067729 A1 to Fukuda et al. (hereinafter "Fukuda").

Regarding Claim 3, Weinstein in view of Athreya discloses **the method according to claim 1**, but does not explicitly disclose QoS requests.

Fukuda also discloses selecting a path based on QoS parameters and associating an identifier for the path (Fukuda: [0053]. The QoS guarantee path establishing portion establishes one or more paths with a QoS guarantee. Flow identifiers are associated with the path that is to be selected for guaranteed QoS routing. [0176]; The QoS guarantee path establishing portion establishes a flow identifier value associated with QoS guarantee setting of the path.). Fukuda discloses **wherein the QoS level/service level is determined in accordance with a QoS level/service level request received from the mobile terminal user** (Fukuda: Figure 4; operator terminal sends QoS guarantee request signal. [0053]; path is determined to meet the QoS request.).

It would have been obvious to one of ordinary skill in the art at the time the invention was to modify the frame for controlling QoS levels of Weinstein and Athreya with identifiers that identify a path through the network having a transmission capability sufficient to provide the determined QoS level/service level for a requested QoS as taught by Fukuda. This would benefit the method of Weinstein and Athreya by selecting or retrieving a path with a QoS guarantee at a high speed (Fukuda: [0181]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN ELLIOTT whose telephone number is (571)270-7163. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2474

BENJAMIN ELLIOTT
Examiner
Art Unit 2474

